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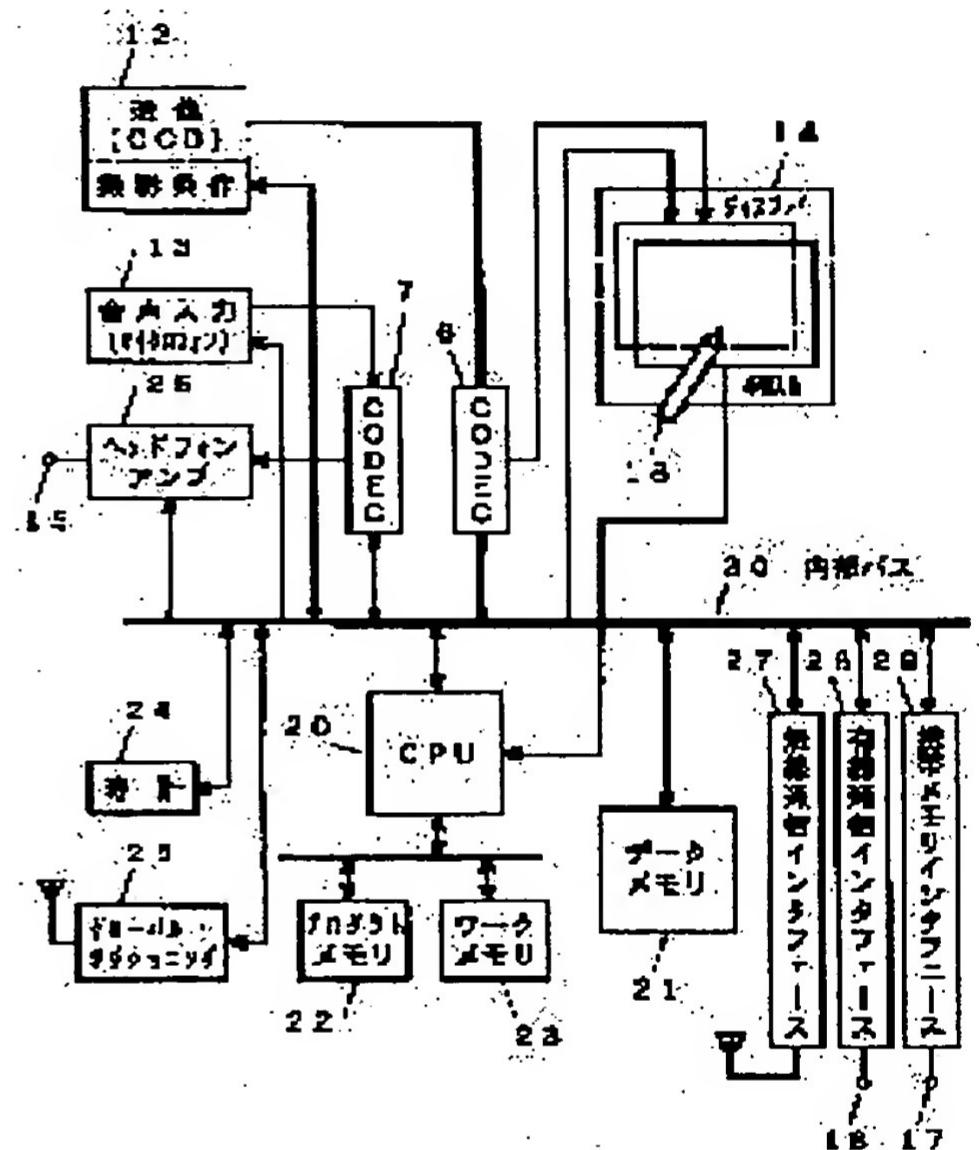
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(54) DIGITAL CAMERA AND IMAGE DATA DISTRIBUTION SYSTEM

(57)Abstract:

PURPOSE: To provide a new digital camera which can guarantee the right of an image photographer justly and an image data distribution system which utilizes the camera, and further a digital camera which can easily input various information (photographer identification symbol, etc.) required for the charged distribution of image data.

CONSTITUTION: In the digital camera equipped with a means for storing encoded image data in a memory, the storage means includes a means for storing the photographer identification symbol in the data memory 21 together with the image data. This storage means is equipped with a means which identifies the photographer himself by using a previously stored specific identification symbol and the password corresponding to it and then sets the identification symbol as the photographer identification symbol. The image data distribution system includes an image data base where image data sent to a network are registered together with at least the photographer identification symbol and an account data base where the user of the information terminal and the deposit amount of the photographer are recorded.



CLAIMS

[Claim(s)]

[Claim 1] It is the digital camera characterized by being what includes a means for the storage means concerned to memorize a photography person's delimiter in memory with image data in the digital camera equipped with the means for memorizing the image data obtained by encoding the photoed picture signal in memory.

[Claim 2] Said storage means is a digital camera according to claim 1 characterized by being a thing possessing a means to memorize in memory by making his delimiter concerned into a photography person delimiter when the delimiter and password which were entered as the password corresponding to the delimiter and the notation concerned of the specification memorized beforehand are collated and it is checked that he is him.

[Claim 3] In addition to a photography person delimiter, said storage means is a digital camera according to claim 1 or 2 characterized by being a thing possessing the means for memorizing camera station information in memory with image data.

[Claim 4] The digital camera according to claim 3 characterized by having a global positioning system as a means for detecting camera station information.

[Claim 5] Said storage means is a digital camera according to claim 1 to 4 characterized by being a thing possessing the means for memorizing required additional information, such as a photographed person consent sign, photography conditions, photography time, a title, and a memorandum, in memory with image data.

[Claim 6] The digital camera according to claim 5 characterized by having a handwriting input device as a means for inputting said additional information.

[Claim 7] Said storage means is a digital camera according to claim 1 to 6 characterized by being what includes the means for enciphering storage information.

[Claim 8] The digital camera according to claim 1 to 7 characterized by having a communication interface for transmitting the information memorized by said storage means to an image database through a network.

[Claim 9] The digital camera according to claim 1 to 8 characterized by having a connection interface for transmitting the information memorized by said storage means to external memory.

[Claim 10] Said external memory is a digital camera according to claim 9 characterized by having a communication interface for transmitting storage information to an image database through a network.

[Claim 11] The image database for registering at least the image data transmitted from the digital camera with a photography person delimiter, Two or more information terminals connected to the database concerned through the network, The account database for recording the deposits of the user of these information terminals, and a photography person, The image data circulation system characterized by having a means for searching image data based on the demand from each information terminal, and distributing to the information terminal concerned, and a means for pulling down the countervalue of the distributed image data from a user's account, and transferring a photography person's account at least.

[Translation done.]

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention is used when exchanging image data through the Internet or a personal computer network, and it relates to a suitable digital camera and an image data circulation system.

[0002]

[Description of the Prior Art] In recent years, the subscriber of the Internet or a personal computer network is increasing rapidly. In these networks, various services of an electronic mail, electronic catalog shopping, etc. are offered. In these services, the electronic news of the Internet and the electronic bulletin board of a personal computer network are services which perform information interchange between users, and are one of the high services of use frequency. Electronic news and an electronic bulletin board are divided into some groups by the theme the information about is exchanged, can specify a group and can perform informational registration and reference.

[0003] In the early phase, the information exchanged had the information (it is written as a "text" below) in use written in written form. However, recently, transmission speed and the processing speed of a computer improve and image data, such as a still picture with more amount of data than a text and an animation, has also come to be exchanged. Although informational offer has been performed gratuitously conventionally, recently, the approach of performing for counter value is beginning to attract attention. A superdistribution etc. is mentioned as the concrete approach of paying a countervalue to an informational provider (for example, refer to Japanese-Patent-Application-No. No. 211406 [02 to] official report).

[0004] Next, the actuation by the side of the user at the time of informational registration and reference is described. In the case of a text, a keyboard is used for the terminal computer (information terminal) of the user who exists at hand at the time of registration, and the text which inputted and inputted the text is transmitted to a network server machine through a communication interface. At the time of reference, the text which transmitted and transmitted the text to other users' terminal computer is displayed on a display from a network server machine through a communication interface. In the case of an image, the actuation at the time of reference is the same as the case of a text, but the actuation at the time of registration differs from the case of a text.

[0005] First, an image is photoed with a digital camera and it records as image data. Next, the recorded image data is transmitted to a terminal computer. Pocket memory, such as a case where a communication interface is used, and a memory card, a magneto-optic disk, may be used for a transfer. In case additional information, such as a title, transmits image data to a terminal computer, it is inputted, and in addition to image data, it is stored as image pick-up data. Registration is performed by transmitting this file to a network server machine through a communication interface.

[0006] When use of the registered image serves as onerous, in order to pay a countervalue to the offered image, the photography person name which shows whether the image was photoed by whom is needed. However, conventionally, since the photography person name of an image is added at the time of the image transfer to a server machine from a terminal computer, it cannot guarantee that a photography person name is right. That is, there is a trouble that image data comes to hand, a false can add its identifier and those who are not photography persons can register it to a server machine as a photography person name.

[0007] Next, if the registered image data increases, in order to look for the target image data, it will search. In order to perform many-sided retrieval, much additional information is needed at the time of retrieval. There is a trouble that the input of this additional information is forced a great effort. When additional information was inputted, inputting additional information was performed having referred to the image transfer-back to the terminal computer, and referring to [recorded in the note which carries additional information independently at the time of photography,] a previous note to a terminal computer conventionally. The actuation is

complicated and a mistake also tends to break out.

[0008] Moreover, when a person and a work object are photoed, in order to use the image, a photographed person's permission is required. Therefore, the sign which shows consent of image use may be acquired from a photographed person. Since this sign records in the note carried independently, there is [a trouble that correspondence of an image and a sign cannot be guaranteed].

[0009]

[Problem(s) to be Solved by the Invention] The main purpose of this invention solves said trouble of the conventional technique, and is to offer the image data circulation system using the new digital camera which can secure an image photography person's right justly, and the camera concerned.

[0010] The additional purpose of this invention is to offer the improved digital camera which can input easily the various information (a photography person delimiter, a photographed person consent sign, a camera station, photography conditions, photography time, a title, memorandum, etc.) needed in charged circulation of image data.

[0011]

[Means for Solving the Problem] Said technical problem of this invention is solvable in the digital camera equipped with the means for memorizing the image data which encoded and acquired the photoed picture signal in memory by making this storage means include the means for memorizing a photography person's delimiter in memory with image data. It is because a delimiter comes to be inputted into photography and coincidence by the photography person and a right delimiter is memorized by memory.

[0012] Furthermore, when the password corresponding to a photography person's specific delimiter and this specific notation which were memorized beforehand, and the delimiter and password which were entered are collated and it is checked that he is him, as for said storage means, it is desirable that it is a thing possessing a means to memorize in memory by making his delimiter concerned into a photography person delimiter. It is because the photography person delimiter to memorize can be made into a much more positive thing.

[0013] In addition, as for an image data circulation system, it is desirable the image database for registering at least the image data transmitted to the network with a photography person delimiter, the account database for recording the deposits of the user of an information terminal and a photography person, and that it is a thing including a means to pay a countervalue to the account of the photography person of a delimiter when an image is used at an information terminal. Since the photography person delimiter is added correctly, it is because it is avoidable un-arranging [for which a countervalue is paid to others] by using this system.

[0014]

[Function] As for said both storage means, it is desirable to provide the means for memorizing required additional information, such as a photographed person consent sign besides camera station information, photography conditions (either [At least] shutter speed, a diaphragm and a zoom ratio), photography time, a title, and a memorandum, in memory at image data in addition to said delimiter, and to have a global positioning system (Global Positioning System), a handwriting input unit, etc. The input in the site of photography is made easy.

[0015] Moreover, it is desirable to make said storage means include a means to encipher storage information. Un-arranging [by which the memorized information is altered] is avoidable.

[0016] Furthermore, the digital camera of this invention has the desirable thing of the connection interface for transmitting the information memorized by said storage means to the communication interface and external memory for transmitting to an image database through a network for which either is provided at least. It is because information can be transmitted to an image database, without passing through an information terminal from a digital camera.

[0017]

[Example] Hereafter, the digital camera and image data processing system concerning this invention are further explained to a detail with reference to the example shown in the drawing.

[0018] Outline drawing of a digital camera 10 is shown in drawing 1. The voice input unit 13 using the image pick-up unit 12 and microphone which consist of an electric power switch 11, an

image sensor (for example, CCD component), and a lens was arranged in the transverse plane. Moreover, the display unit 14 with a handwriting input device was installed in the tooth back, and the headphone terminal 15, the wire communication connection terminal 16, and the pocket memory connection terminal 17 were put on the side face. Moreover, the pen 18 for an input was attached.

[0019] A display unit 14 is what stuck on the front face of a liquid crystal display the tablet which has a transparent electrode, and functions as a handwriting input unit. If a pen 18 is contacted into an applicable part or an alphabetic character etc. is drawn, looking at an alphabetic character, a mark, etc. which are displayed on a display, the coordinate point of a contact part will be detected. An alphabetic character, a mark, etc. which are displayed become a software keyboard. Moreover, a liquid crystal display can be used as a finder of the photoed picture signal.

[0020] The circuit block of a digital camera 10 was shown in drawing 2. CODEC which compound-izes these data while 6 encodes the picture signal of the image pick-up unit 12 and makes it image data in drawing 2, and 7 CODEC which compound-izes these data while encoding the sound signal of the voice input unit 13 and making it voice data, and 20 The microprocessor (it is written as "CPU] below) which controls actuation of a camera 10, and 21 The data memory (hard disk) which memorizes image data, a photography person delimiter, etc., and 22 The program memory (ROM) which memorizes the program which CPU20 performs, and 23 CPU20 the work-piece memory (RAM) used for a working-level month, and 24 A global positioning system for the clock which consists of a crystal oscillator and a semiconductor integrated circuit, and 25 to acquire a camera station, The pocket memory interface a wire communication interface and whose 29 headphone amplifier and 27 are [for 26] the connection interfaces for pocket memory as for a radio interface and 28, and 30 show an internal bus.

[0021] The wire communication way connection terminal 16 is a terminal for connecting the wire communication interface 28 to a network wire communication way (ISDN), and the pocket memory connection terminal 17 is a terminal for connecting with the pocket memory (others, optical-magnetic disc equipment, or a hard disk drive unit being used) which adopted the pocket memory interface 29 as external memory. [memory card] In addition, the memory of a deferment mold other than pocket memory can be used for external memory. In that case, the structure of a terminal is changed.

[0022] The radio interface 27 can be constituted for example, using a cellular-phone terminal. Moreover, a global positioning system 25 receives the electric wave from two or more exclusive satellites, measures the propagation time, i.e., distance, from the time difference of the time of day and the self-time on the system which are spent, and asks for its location. Generally, although used for car navigation or the application of a survey, since a precision high for this purpose is unnecessary, it can constitute small.

[0023] A digital camera 10 is roughly divided and has three functions, photography person authentication, photography, and registration. In photography person authentication, a photography person delimiter (it is written as "the photography person ID" below) is set up. A setup is performed immediately after powering on. In photography, each data of the photography person ID, a camera station, photography conditions, and photography time is memorized by data memory 21 with image data. In registration, a photographed person consent sign, a title, and a memorandum are added to data, such as this, and the photography data 31 (refer to drawing 3 and drawing 4) are completed. The photography data 31 are enciphered, the transmission to a channel or the transfer to pocket memory is performed, and registration to an image database is performed.

[0024] With the instruction from CPU20, a display unit 14 displays three kinds of screens of the registration screen displayed at the time of the photography person authentication screen displayed immediately after powering on, the finder screen displayed at the time of photography, and registration. Moreover, from a display unit 14, the data of the input by the pen 18 or the hand are transmitted to CPU20.

[0025] With the instruction by CPU20, the image data from the image pick-up unit 12 and the data of photography conditions are transmitted to data memory 21 at the time of photography.

At the time of photography of an animation, voice data is transmitted to data memory 21 with the instruction from CPU20.

[0026] At the time of photography, a global positioning system 25 is the instruction from CPU20, and sends the data of the current position to data memory 21. At the time of photography, a clock 24 is the instruction from CPU20, and sends the data of current time to CPU20 data memory 21. The headphone amplifier 26 is the instruction from CPU20, when checking the photoed animation, and it sounds delivery and voice for the sound signal from data memory 21 to headphone through the headphone terminal 15.

[0027] At the time of registration, the wire communication interface 28 transmits the encryption photography data 32 (refer to drawing 3) in data memory 21 to a wire communication way with the instruction from CPU20, and, in the case of communication link impossible, tells that to CPU20. At the time of registration, the radio interface 27 is the instruction from CPU20, and transmits the encryption photography data 32 to a network. At the time of registration, the pocket memory interface 29 is the instruction from CPU20, and transmits the encryption photography data 32 to pocket memory. In addition, pocket memory is connected to a network channel later.

[0028] The configuration of the contents of storage of data memory 21 is shown in drawing 3. Data memory 21 consists of the photography data 31, the encryption photography data 32, the photography person ID storage section 33, and a password table 34. Every one photography data 31 is created for every photography, and as shown in drawing 4, it is constituted with image data 40, voice data 41, the photography person ID 42, a title 43, the photography time 44, a camera station 45, the photography conditions 46, a memorandum 47, and the photographed person consent sign 48. However, when image data 40 is a still picture, voice data 41 is not contained in the photography data 31, and if a title 43, a memorandum 47, and the photographed person consent sign 48 are not inputted at the time of registration, they are not included in the photography data 31.

[0029] The encryption photography data 32 are data which encipher the photography data 31 and are generated, before transmitting or transmitting the photography data 31, and a transmitting rear stirrup is eliminated after a transfer. Encryption is carried out according to the encryption algorithm mentioned later.

[0030] The photography person ID storage section 33 is set up at the time of photography person authentication, and the photography person ID 42 who specifies the person who is performing current photography is memorized. The password table 34 is a table which has memorized beforehand the password which corresponds with the photography person ID 42. The password is enciphered and memorized.

[0031] Program memory 22 is shown in drawing 5. Program memory 22 memorizes the cryptographic algorithm 53 for enciphering the photography person authentication procedure 50, the photography procedure 51, the registration procedure 52, and photography data. About each procedure, a detail is mentioned later. Cryptographic algorithm 53 replaces each bit of photography data according to the existing fixed sequence with difficult decode out of a person concerned.

[0032] The photography person authentication screen which a display unit 14 displays on drawing 6 at the time of photography person authentication is shown. This screen serves as the photography person ID input column 60 and the password input column 61 from a software keyboard 62.

[0033] A photography person uses a software keyboard 62 for the photography person ID input column 60, and inputs the photography person ID of an identifier format into it. Then, a software keyboard 62 is used for the password input column 61, and a password is entered into it. If the confirmation key of a software keyboard 62 is chosen, the person will compare with the password of Table 34 the password which inputted whether you were him, and CPU20 will check. After a check is completed, the photography person ID 42 is memorized by data memory 21, and moves from a screen to a finder screen.

[0034] As shown in drawing 7, a finder screen consists of the finder screen carbon button 70, the registration screen carbon button 71, a finder 72, the animation photography carbon button

73, a still picture photography carbon button 74, and a zoom carbon button 75.

[0035] The finder screen carbon button 70 shows that current shows the finder screen, and inverse video is carried out. Even if it chooses, nothing operates. The finder 72 always shows the image inputted from the image pick-up unit 12. If it chooses once, photography of an animation will start, and if the animation photography carbon button 73 is chosen once again, photography will end it. A push on a still picture photography carbon button photos one frame of the image currently displayed. As described above, each data of the photography person ID, a camera station, photography conditions, and photography time is memorized with image data, and the image pick-up data 31 of a preceding paragraph story are generated. In addition, the zoom carbon button 75 is for controlling the zoom of the image pick-up unit 12. If the registration screen carbon button 71 is chosen, it will move to the registration screen of drawing 8.

[0036] A registration screen is shown in drawing 8. A registration screen becomes from the display 90 of the finder screen carbon button 70, the registration screen carbon button 71, the photography data selection carbon button 80, the photography data transmitting carbon button 81, the photography data-logging carbon button 82, the photography data deletion carbon button 83, the title input column 84, the photography person ID display 85, image display 86, the image reconstruction carbon button 87, the memorandum input column 88, the photographed person consent sign input column 89 and photography time, a camera station, and photography conditions.

[0037] The registration screen carbon button 71 is showing and carrying out the inverse video of current showing the screen processed for registration. Even if it chooses, nothing operates. If the photography data selection carbon button 80 is chosen, the photography data 31 of the preceding paragraph story of a processing object will switch to the following photography data 31 in order of time. If the title input column 84 is chosen, after a title can write in in a handwriting input and will change into a character string, it is added to the image pick-up data 31.

[0038] The photography person ID display 85 displays the photography person ID added to the photography data 31 at the time of photography. Image display 86 displays the image data 40 in the photography data 31. In the case of an animation, it is reproduced with voice data 41 by choosing the image reconstruction carbon button 87.

[0039] If the memorandum input column 88 is chosen, after a memorandum can write in in a handwriting input and will change into a character string, it is added to the photography data 31. If the photographed person consent sign input column 89 is chosen, a sign can write in in a handwriting input and the inputted sign will be added to the photography data 31 with graphical data. The photography data 31 are completed by the above.

[0040] Display 90 displays the photography time added to the photography data 31 at the time of photography, a camera station, and photography conditions.

[0041] If the photography data transmitting carbon button 81 is chosen, the photography data 31 which are indicating by current will be enciphered, and it will transmit to a network through the wire communication interface 27 or the radio interface 28. If the photography data-logging carbon button 82 is chosen, the photography data 31 which are indicating by current will be enciphered, and it will transmit to pocket memory through the pocket memory interface 29. In addition, selection of the photography data deletion carbon button 83 deletes the photography data 31 which are indicating by current from data memory 21. Moreover, if the finder screen carbon button 70 is chosen, it will return to the finder screen of drawing 7.

[0042] The photography person authentication procedure 50 is shown in drawing 9. As for CPU20, an electric power switch's 11 injection of a power source reads the photography person authentication procedure 50 in program memory 22 one by one first. Next, the photography person authentication screen of drawing 6 is displayed on a display unit 14 (step 91), and it becomes the waiting for an input (step 92). If the photography person ID input column 60 is chosen, it will be in the input state of the photography person ID of an identifier format.

[0043] the photography person ID — a software keyboard 62 — using — inputting (step 93) — it becomes the waiting for an input (step 92) again. If the password input column 61 is chosen, it will be in the input state of the password corresponding to the photography person ID. a password — a software keyboard 62 — using — inputting (step 94) — it becomes the waiting

for an input (step 92) again. Selection of the confirmation key of a software keyboard 62 checks the entered password in the password table 34 in data memory 21 (step 95). If correspondence of the photography person ID and a password is right, the photography person ID will be memorized in the photography person ID storage section 33 (step 96), and the following photography procedure 51 will be performed (step 97). If correspondence of the photography person ID and a password is an error, it will return to the waiting for an input (step 92).

[0044] The photography procedure 51 is shown in drawing 10. First, the finder screen of drawing 7 is displayed on a display unit 14 (step 100), and it becomes the waiting for an input (step 101).

[0045] Selection of the animation photography carbon button 73 generates the empty photography data 31 in data memory 21 first (step 103). Next, the photography conditions which ordered to the photography time ordered and acquired for the clock 24 besides [which is memorized by the photography person ID storage section 33] the photography person ID, the camera station ordered and acquired to the global position NINGU system 25, and the image pick-up unit 12, and were acquired to the generated photography data 31 are added (step 104). Next, the transfer initiation to the photography data 31 of voice data is ordered for the transfer initiation to the photography data 31 of image data to the voice input unit 13 to the image pick-up unit 12 (step 105). It becomes the waiting for an after [an instruction] input (step 106).

[0046] If the zoom carbon button 75 is chosen here, the zoom of the image pick-up unit 12 will be controlled (step 107), and it will return to the waiting for an input (step 106). If the animation photography carbon button 73 is chosen again, a transfer halt to the photography data 31 will be ordered to the image pick-up unit 12 and the voice input unit 13 (step 108), and it will return to the waiting for an input (step 101).

[0047] If the still picture photography carbon button 74 is chosen by the waiting for an input (step 101), the empty photography data 31 will be first generated in data memory 21 (step 109). Next, the photography conditions which ordered to the photography time ordered and acquired for the clock 24 besides [which is memorized by the photography person ID storage section 33] the photography person ID, the camera station ordered and acquired to the global position NINGU system 25, and the image pick-up unit 12, and were acquired to the generated photography data 31 are added (step 110). Next, the transfer to the photography data 31 of the image data for one frame is ordered to the image pick-up unit 12 (step 111). It returns to the waiting for an after [an instruction] input (step 101).

[0048] If the zoom carbon button 75 is chosen by the waiting for an input (step 101), after controlling the zoom of the image pick-up unit 12, it will return to the waiting for an input (step 101). Selection of the registration screen carbon button 71 performs the registration procedure 52 (step 102).

[0049] The registration procedure 52 is shown in drawing 11. First, the registration screen of drawing 8 is displayed on the display unit 14 with a handwriting input device (step 120), and it becomes the waiting for an input (step 121).

[0050] If the photography data selection carbon button 80 is chosen, it will change into the display of the photography data 31 which chose the photography data 31 of the following processing object from the inside of data memory 21 in order of the photography time 44, and chose the display of a display unit 14 (step 123). It returns to the waiting for an input (step 121) after modification.

[0051] The title input column 84 is chosen by the waiting for an input (step 121), and this is recognized to carry out the handwriting input of the title with a pen, and it character-string-izes (step 131), and adds to the photography data 31 (step 132). (step 130) It returns to the waiting for an input (step 121) after title addition.

[0052] If the image reconstruction carbon button 87 is chosen by the waiting for an input (step 121), voice data 41 will be reproduced for image data 40 from the beginning through the headphone amplifier 26 to image display 86 (step 133). It returns to the waiting for an input (step 121) after playback initiation.

[0053] The memorandum input column 88 is chosen by the waiting for an input (step 121), and this is recognized to carry out the handwriting input of the memorandum with a pen, and it character-string-izes, and adds to the photography (step 135) data 31 (step 136). (step 134) It

returns to the waiting for an input (step 121) after memorandum addition.

[0054] If the photographed person consent sign input column 89 is chosen by the waiting for an input (step 121) and the handwriting input of the sign is carried out with a pen (step 137), this will be added to the photography data 31 with graphical data (step 138). It returns to the waiting for an input (step 121) after sign addition.

[0055] If the photography data transmitting carbon button 81 is chosen, first, the photography data 31 on display to a display unit 14 will be enciphered, and the encryption photography data 32 will be generated in data memory 21 (step 124). Next, the wire communication interface 28 is ordered to transmit the generated encryption photography data 32 (step 125). When the notice of communication link impossible is received from the wire communication interface 28, the radio interface 27 is ordered to transmit the generated encryption photography data 32 (step 126). It returns to the waiting for an input (step 121) after transmission of the encryption photography data 32.

[0056] If the photography data-logging carbon button 82 is chosen by the waiting for an input (step 121), the photography data 31 on display to a display unit 14 will be enciphered first, and the encryption photography data 32 will be generated in data memory 21 (step 127). Next, the pocket memory interface 29 is ordered to perform the transfer to the pocket memory of the generated encryption photography data 32 (step 128). It returns to the waiting for an input (step 121) after a transfer of the encryption photography data 32.

[0057] By the waiting for an input (step 121), if the photography data deletion carbon button 83 is chosen, the photography data 31 on display to a display unit 14 will be deleted from the inside of data memory 21 (step 129), and it will return to the waiting for an input (step 121). In addition, selection of the finder screen carbon button 70 performs the photography procedure 51 (step 122).

[0058] Next, the image data circulation system of this example is explained using drawing 12. As shown in drawing 12, an image data circulation system consists of an information terminal (a personal computer 164 or personal digital assistant 165) which refers to a digital camera 10, the image data circulation processing system 140, a network adapter 161, and an image, and a network 166.

[0059] The encryption photography data 32 of a digital camera 10 are transmitted and registered into a processing system 140. A processing system 140 has a function as a server machine.

[0060] Transmission and registration of the encryption photography data 32 are performed according to the above mentioned registration procedure. When based on a wire communication and radio, direct continuation is carried out to a network 166, but (upper part of drawing 12) when using the pocket memory 160, connection with a network 166 is made through the network adapter 161 equipped with the pocket memory interface 163 and the communication interface 162.

[0061] A processing system 140 is equipped with the internal bus 146 which connects these with a communication interface 141, an image database 142, the account database 143, CPU144, and memory 145. The photography data 31 are memorized in an image database 142, and the balance of the user of an information terminal and a photography person is memorized by the account database 143. The registration procedure 150 of registering the photography data 31 sent from the digital camera 10 to an image database 142 into memory 145, and the retrieval procedure 153 of searching an image with the instruction of a personal computer 164 or a personal digital assistant 165 are memorized.

[0062] If a processing system 140 receives the encryption photography data 32 from a digital camera 10, according to the registration procedure 150, CPU144 will decode a code (step 151) and will register the photography data 31 after decode to an image database 142 (step 152).

[0063] If an instruction of image retrieval is received from a personal computer 164 or a personal digital assistant 165, CPU144 will search the photography person ID 42 and title 43 which are first contained in the photography data 31 (refer to drawing 4) in an image database 142, the photography time 44, a camera station 45, the photography conditions 46, and a memorandum 47 according to the retrieval procedure 153, and will transmit to a personal computer 164 or a personal digital assistant 165 by making the found photography data 31 into a retrieval result

(step 154).

[0064] Next, a part for dues is lengthened from the account of the user who sent the instruction of retrieval in the account database 143, and a part for dues is added to the account of the photography person of the photography data 31 who transmitted (step 155).

[0065] Thus, in this invention, since the photography person ID is correctly inputted by the digital camera 10 at the time of photography, it mistakes with it and it registers with a database 142 that there is nothing, a reliable image data circulation system is realizable.

[0066]

[Effect of the Invention] Since it is set up correctly according to this invention, without altering a photography person delimiter, an image photography person's right can be secured justly and it becomes possible to mistake to a photography person and to pay a countervalue that there is nothing. Therefore, full-scale circulation of image data is realizable.

[0067] Moreover, since various kinds of information can be added and recorded on image data for digital camera itself and the registration to a network is attained, the handling also of ordinary men without a terminal computer becomes possible, and they can raise the practicality of a digital camera remarkably.

[0068] Furthermore, photography data become a thing including much information that it uses at the time of image retrieval, and become possible [performing many-sided retrieval].

[Translation done.]